

Amendments to the Specification:

Please replace the previous abstract at page 39 with the following amended abstract:

--A blue-ultraviolet on-p-GaAs substrate pin $\text{Zn}_{1-x}\text{Mg}_x\text{SySe}_{1-y}$ photodiode with high quantum efficiency, small dark current, high reliability and a long lifetime. The ZnMgSSe photodiode has a metallic p-electrode, a p-GaAs single crystal substrate, a p-(ZnSe/ZnTe) $_m$ superlattice (m: integer number of sets of thin films), an optionally formed p-ZnSe buffer layer, a p- $\text{Zn}_{1-x}\text{Mg}_x\text{SySe}_{1-y}$ layer, an i- $\text{Zn}_{1-x}\text{Mg}_x\text{SySe}_{1-y}$ layer, an n- $\text{Zn}_{1-x}\text{Mg}_x\text{SySe}_{1-y}$ layer, an n-electrode and an optionally provided antireflection film. Incidence light arrives at the i-layer without passing ZnTe layers. Since the incidence light is not absorbed by ZnTe layers, high quantum efficiency and high sensitivity are obtained. --

~~A blue-ultraviolet on-p-GaAs substrate avalanche $\text{Zn}_{1-x}\text{Mg}_x\text{SySe}_{1-y}$ photodiode with high sensitivity, high quantum efficiency, a wide sensitivity range, high reliability and a long lifetime. The ZnMgSSe avalanche photodiode has a metallic p-electrode, a p-GaAs single crystal substrate, a p-(ZnSe/ZnTe) $_m$ superlattice (m: integer number of sets of thin films), an optionally formed p-ZnSe buffer layer, a p- $\text{Zn}_{1-x}\text{Mg}_x\text{SySe}_{1-y}$ layer, a lower doped n- $\text{Zn}_{1-x}\text{Mg}_x\text{SySe}_{1-y}$ layer, a higher doped n- $\text{Zn}_{1-x}\text{Mg}_x\text{SySe}_{1-y}$ layer, an n-electrode and an optionally provided antireflection film. Since the incidence light is not absorbed by ZnTe layers, a high avalanche gain, high quantum efficiency and high sensitivity are obtained.~~